

### Abstract

The present invention provides a supply management system and method, which is useful to determine optimal supply chain configurations. Within the method of the present invention, the user sets up a supply chain model, specifies conditions for optimization, optimizes the supply chain model, and analyzes the optimal supply chain and fine-tunes the supply chain model. The user sets up the supply chain model by providing various information. The user may further define various purchase, source, and make processes that occur in the supply chain. The user may also specify resources used in the supply chain. In defining these resources, the user may further designate multi-tiered pricing. The user may also specify constraints for the process and resources. Tax and information related to international locations may also be specified. After establishing the supply chain model, the user may further define optimization conditions for finding optimal solutions. The user may further define scenarios in which the user modifies the supply chain model and then accesses the impact of this change. The supply chain is then optimized using linear programming if the supply chain does not include multi-tiered pricing or maximum sourcing. If the supply chain includes multi-tiered pricing or maximum sourcing, the network is optimized using mixed integer programming and heuristics.